32. A process as claimed in claim 1 wherein, germania is supplied to the core layer during sintering by including $GeCl_4$ with the input oxygen.
33. A process as claimed in claim 1 wherein, the sintering is carried out at a temperature of 1200°C to 1400°C.
34. A process as claimed in claim 1 wherein, depending on the composition of the core, $POCl_3$ is added to the input gas mixture during sintering.
35. A process as claimed in claim 1 wherein, the core layer is doped with P_2O_5 to facilitate RE incorporation.
36. A process as claimed in claim 1 wherein, P_2O_5 and GeO_2 concentrations vary from 0.5 to 5.0 mol% and 3.0 to 25.0 mol% respectively in the RE doped core layer.
37. A process as claimed in claim 1 wherein, the numerical aperture of the fibre is varied from 0.10 to 0.30.
38. A process as claimed in claim 1 wherein, RE concentration in the core is maintained in the range of 50 to 4000 ppm to produce fibres suitable for application as amplifiers, fibre lasers and sensors or different purposes.
39. A process as claimed in claim 1 wherein, codopants like Al and other rare earths are added to the core doped with a selected RE to fabricate fibres containing various dopants in the core in the concentration range 50 to 5000 ppm and numerical aperture varying between 0.10 and 0.30.
40. A process as claimed in claim 1 wherein, the deposition of a porous soot layer at high temperature (1000°C or above) by CVD process inside a fused silica glass tube or on a seed rod (VAD or OVD apparatus) is eliminated for formation of the core.
41. A process as claimed in claim 1 wherein, better control is achieved over the characteristics of the coated layer like porosity, thickness etc. and uniformity along the length of the tube.
42. A process as claimed in claim 1 wherein, the difficulties and uncertainties involved in incorporation of the rare-earth ions in desired concentration into the porous soot layer by the solution-doping technique and such other methods are eliminated.

43. A process as claimed in claim 1 wherein, the rare-earth oxide coated silica nanoparticles are dispersed at ambient temperature in the silica sol mentioned above under sonication thereby eliminating the possibility of formation of the microcrystallites and clusters of rare-earth ions as in the conventional techniques.
44. A process as claimed in claim 1 wherein, the possibility of evaporation of RE salts at high temperatures is considerably eliminated due to the direct addition of RE oxides which prevents change in composition including variation of RE concentration in the core and also reduces the possibility of formation of RE dip at the core centre.
45. A process as claimed in claim 1 wherein, the process ensures better control of RE concentration in the doped region and homogeneous distribution of RE ions along the radial direction as well as throughout the length of the preform.
46. A process as claimed in claim 1 wherein, the RE incorporation efficiency is much higher compared to the conventional techniques beacuse of direct addition of the RE oxides into the dispersion instead of the corresponding salt by the conventional techniques thereby minimising the possibility of evaporation and change in concentration.
47. A process as claimed in claim 1 wherein, the addition of $Ge(OET)_4$ at ambient temperature in the silica sol above reduces the quantity of $GeCl_4$ which is required at high temperature to achieve the desired NA.
48. A process as claimed in claim 1 wherein, the time period of processing the silica tube at high temperature and the number of steps involved for doping of RE ions by the conventional techniques for fabrication of the preform are considerably reduced.
49. A process as claimed in claim 1 wherein, the processing of the tube at ambient temperature before sintering and collapsing instead of high temperature involved in the CVD process makes the process less sensitive to the process parameters unlike the conventional processes.
50. A process as claimed in claim 1 wherein, the advantages described above increases the reproducibilty and reliability of the process to a great extent.

51. A process as claimed in claim 1 wherein, the requirement of precision equipments for control of porous soot deposition, RE incorporation etc. during fabrication of the preform is considerably eliminated which will reduce the capital investment and cost of the product.

52. A process as claimed in claim 1 wherein, the advantages combined make the process simple and more economic than the conventional processes.